

[3 cont.]

123 the sum of the ethnological results obtained in each case is a func-
124 tion of the amount of "yellow" money that in each instance was
available to me.

000 The results of my work, together with the space available
to me, determined the size and content of this book. For the
prehistoric cultures, I refer the reader to the first volume.

114 My original intention of giving a survey of those tribes
128 among whom I was unable to do research had to be abandoned in
view of the amount of space placed at my disposal. I intend to
do this in the final section of the third volume, where, along with
the anthropological findings, an over-all survey of the cultural
and racial history of South Africa is to be presented. I have
[127] referred to the literature at some length only in the accounts on
the Bushmen tribes of South Africa. In particular the officers of
the Imperial German Colonial Force performed extremely valuable
pioneering work in this area. Their accounts, given with military
exactitude, are unsurpassable and represent ethnological sources
of the first rank.

126 Wherever I did not carry out the observations myself but
wrote down the translations of my native interpreters, I have left
them unchanged. Hence, I hope that the reader will not hold
against me the stylistic defects that appear here and there. The
native words for the most part were written down by my interpreters.
I would have been happy if it had been possible for me to have
all the texts checked by competent experts. This was impossible.
I therefore request indulgence in case there are any errors in the
linguistic transcription. At any rate, these people wrote their
mother tongue. [Page 4 blank.]

[5]

The Bushmen Tribes

172 In terms of geological eras, South Africa has undoubtedly
been inhabited for as long a time as the other parts of the Old
World. Naturally, the first cultures we know are those that
possessed a stone industry. Among these the hand-ax industry,
which is also the oldest elsewhere, is likewise widespread in South
and Southwest Africa. Since Reck has most recently established

N/OW

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dangerous.' When they do they use the word *n/oi*. It is a word for gentle rain, and ³²¹ also a respect word. They use it for male rain when they are afraid of it and avoid its real name, *ga go*.

The rains of the western Kalahari are local, falling from clouds which the winds ³² herd. They may fill one pan and miss another. Laurence Marshall spent one whole night, tentless, in a drenching downpour, to find in the morning that a mile away no rain had fallen. But by and large the rains are sufficient in quantity and well enough dispersed to fill most of the water-holes, pans, and hollow trees, and to revive the growing things, so that the autumn months, which follow the rains, are good—the best of the year. Then the /Kung may travel anywhere within their territories to hunt and gather the fresh veldkos. The rains are life-giving.

Winter is the season of dryness. It is also the season of burning sun in the cloudless sky by day and freezing cold when the sun sets. Bitter winds catch up the sparks of the fires at night and whirl them in blazing streaks into the darkness. If water is left in an open bowl, it may be ice in the morning. By mid-winter, July, there has been no rain for three or four months. The pans and small water-holes are dry. Though there ³¹² are still foods to be gathered, like the mangetti nuts in the northern forest, there is no water on the route, nor in the white sand dunes where the mangettis grow, and the people cannot carry enough in their ostrich-egg shells to go to the mangettis and return. In 7,500 square miles of the interior of the region around Nyae Nyae, there are only five water-holes which do not dry up in the winter and spring. The /Kung bands must gather around whatever permanent water-hole they belong to and restrict ³²¹ their hunting and gathering trips to conform one way or another to the problem of ³⁶¹ water. This region, incidentally, does not abound in tsama melons and, though there ¹³⁷ are succulent so-called 'water' roots to be found, they seem not to be sufficient to support whole bands for long. The Nyae Nyae bands, it appears, cannot, or at least do not, base themselves for long periods away from their water-holes.

The spring months which follow the dry months of winter are the dangerous ³² months. The sun is scorching. Fruits and leaves shrivel; the edible roots, stirred by the few tantalizing drops of the little rains, or just because it is spring, give up their juices to the first new shoots and are dry and bitter to eat. The people longingly await the rains, saying it is the sun which dries the water-holes and the plant foods. ³²¹ The /Kung of this region use one word for both sun and dryness, /kam, and say the sun is death-giving.

In their beliefs about *n/ow*,¹ which they think influences the weather, as this paper ³²¹ will describe, they make an antithesis between rain and cold. This seems paradoxical when one experiences the devastating heat of the sun in September, October, and November, but the resolution of the paradox may lie in the fact that the hardships of the dry seasons begin with the rainless winter months and their bitterly cold nights, so that sun, dryness, cold and want become a complex which is in antithesis to rain and plenty. *N/ow* is called 'bad' if it brings cold, 'good' if it brings rain.

Mrs. Hoernlé² records a Hottentot belief called /nan. The word appears to be ⁷¹ ⁹²

¹ We spell the /Kung word *n/ow* in this way because it rhymes with 'how'. We wish to distinguish it from another /Kung word, /nan, which it closely resembles, but which has a slightly shorter, more closed sound. /Nan means 'old man', according to

Miss Bleek's *Bushman Dictionary*. We heard it used as a term of respect in addressing old men.

² Hoernlé, Agnes W., 'Certain Rites of Transition and the Conception of /nan among the Hottentots', *Harvard African Studies*, II (1918), pp. 75-77.

As the spellings of the Bushman names on my herbarium specimens are from field notes, they are often different from the spellings given in this paper, which was done after I had had the opportunity of consulting the authors I have mentioned. It will be noticed that many of the plants do not have the full set of Bushman names. The main reason is that we were not in contact with the Eastern !khū speakers until we had passed Ghanzi, and lost contact successively with the !gikwe, ||ganakwe and !h3: speakers as the expedition drew to a close. Other reasons are that my field notes were sometimes inadequate, that I forgot to ask, and that some plants appeared restricted to certain areas and were not known to all the groups of Bushmen. [184]

As the expedition was during the winter when most of the plants were in poor condition, very little photography was done in the field. Most of the photographs are from plants which were sent back to Pretoria and cultivated there, or from plants which grow naturally in the Transvaal. In this paper the plants and photographs are arranged according to de Dalla Torre and Harms (1900-1907). Specimen numbers are in brackets. [28]

There is little doubt that the plants discussed here represent only a fraction of those used, for we covered a very small part of the area over which the Bushmen range, and this when probably most of the annuals were dead, when some foods were out of season and when the above ground parts of many bulbous and tuberous plants had withered and disappeared so that the plants themselves could not be found. [114]

Because of poor yield, poor quality, difficulty in harvesting or lack of flavour, not many of the Bushman food plants would be worth cultivating in their present form for the use of civilised people, but they offer a large field to the plant breeder. The most promising have been noted accordingly in the text. [000]

There were few bones around the Bushman encampments, but this does not necessarily mean that there is a scarcity of meat in their diet, for the bones might have been removed by porcupines (Alexander, 1956; Dart, 1957) or eaten by hyaenas. A more reliable indication was the scantiness of the Bushmen's skin coverings. There are sharp frosts in the Kalahari and sometimes bitter winds, and one may argue that the Bushmen would provide themselves with sufficient skins if they had a regular supply of meat, although admittedly they eat skins after charring them on the coals and pounding them in a mortar. Vegetable refuse from former meals and fresh vegetable food, however, were found at all the Bushman encampments, and additional gatherings were the permanent chore of the women and children and of the men to a lesser degree. The insanitary condition of the surroundings also provided unmistakable evidence that the bulk of their food was of vegetable origin. [291] [132] [364]

Their knowledge of field botany was astonishingly good. It has to be, otherwise they would have no chance of survival in their arid country. Fragments of stem, dead leaves, and other small clues of this nature, after being unerringly identified, were all the Bushmen needed to find many of the storage organs they were seeking. Differences which escaped me would enable them to distinguish between edible and harmful plants, and they had a thorough knowledge of the areas and habitats in which their food plants grew. They must have an influence on the distribution of plants. [824] [37x]

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1951:26). In East Africa are sites indicating that people of common origin with Bushmen inhabited those regions, and this suggests that Bushmen in past ages migrated from the northeast (Schapera 1951:27) into South Africa, where they distributed themselves from the Zambesi River to the Cape of Good Hope. Hottentots also came into southern Africa—from East Africa in all probability—bringing with them herds of cattle. Bantu-speaking Negro tribes migrated into southern Africa, it is believed during the fourteenth and fifteenth centuries. White settlers began in 1652 to establish themselves at the Cape of Good Hope. Negroes, Hottentots, and whites encroached upon Bushmen, who were expelled from the better-watered lands or assimilated or exterminated. With the exception of a few individuals, the surviving Bushmen are found now only in the Kalahari Desert.

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131(3)
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The numbers of Bushmen found in various political divisions in 1955 as listed by Tobias (1956) are as follows:

Bechuanaland Protectorate	31,000
South West Africa	20,311
Angola	4,000
Northern Rhodesia	200
Union of South Africa	20

144(4)

Hooton classified Bushmen and Hottentots as a composite race, predominantly Negroid (1946:628) "whose racial ambiguity will probably continue to haunt us" (p. 633). [Cf. Schapera (1951:27), who says that it is generally regarded that Pygmies and Bushmen probably both diverged from a small variety of Negro; and Tobias (1961:19) who points out that no fossil remains have yet been found to provide definite evidence of this.] The resemblance of some of the physical characteristics of Bushmen to those of Mongolians is generally thought to be fortuitous (cf. Tobias 1957:4 ff.). Coon (1962:193) places the Bushmen among "tag-ends of ancient humanity, culturally as well as physically archaic," hard for classifiers to "fit into categories, let alone explain." The reader is referred to Schapera (1951) and Howells (1959) for judicious presentations of what is and is not known about these peoples.

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114(5)
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Studies on the adaptation of the Bushmen to heat and cold have been published by Wyndham and Morrison (1956).

224(6)
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The nature of the Bushman hunt is graphically and empathetically portrayed in a most effective and widely acclaimed film, "The Hunters," made by Mrs. Marshall's son, John Marshall, while following !Kung hunters. Information about purchase or rental of the 70-minute film may be obtained from The Film Study Center, Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge 38, Mass.—Ed.

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I think that in the name relationship of the !Kung we can see the potential beginnings of a kin group. It would seem that it could be a *deme* if it existed. A *deme* is a name Murdock proposed for a bilateral endogamous local group, in the absence of unilinear descent, "comparable to the sib both in size and in the traditional rather than demonstrable bonds of kinship which unite

136 Two species of frog:

1. Pyxicephalus adspersus
2. Rana anchietae

[262] Of these twenty-four species, five were recorded as eaten:

1. rock python
2. large leopard tortoise
3. small leopard tortoise
4. land leguaan
5. the bullfrog Pyxicephalus

• [126] Invertebrates: Only a small percentage of the countless insects and other invertebrates present at Dobe were collected. One box of specimens was lost in the mail. Other identifications are pending. Below are listed thirteen species of invertebrates and a further sixty-nine species of insects.

Class Arachnida Scorpions 2 spp.

 Spiders 3 spp.

 Ticks 2 spp.

Class Myriapoda Centipede 1 sp.

 Millipede 1 sp.

Class Hirudinea Leech 1 sp.

Class Unionidae Freshwater clam 1 sp.

Class Helicidae Land snails 2 spp.

Class Insecta

Order Dictyoptera

 Cockroach 1 sp.

Temperature

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The records of daily temperatures maintained by the author are incomplete. The temperature data for six representative months are shown in Table 4. Using a standard Minimum-Maximum dry-bulb thermometer, the author recorded the lowest and highest temperatures in each twenty-four hour period. Column 1 of the table shows the average of all the daily minima recorded in each month and column 2, the average of all the daily maxima. Columns 3 and 4 show, respectively, the lowest and highest single recordings in each month. Column 5 shows the average diurnal range from low to high in each month. This figure was calculated by subtracting the mean low from the mean high for each month and it is rounded out to the nearest degree.

The critical temperature datum in terms of subsistence ecology is the daily maximum because this is an indicator of the heat conditions under which the people must hunt and gather. Walking in the sun on a day when the shade temperature is over 100°F imposes a much greater burden on the individual's fluid metabolism than does walking in the sun when the shade temperature is under 80°F. Consequently, a Bushman's daily water requirements are much greater in summer than in winter. The water/subsistence problem is considered in detail in Chapter VIII.

262 plants, are scarce and unpredictable and people never depend
137 on meat for their basic subsistence. Therefore the well-
136 being of the Bushmen as a population can be viewed as the
433 product of two factors: the abundance of food resources in
their environment, and the intelligence and sophistication
which informs their exploitation of these resources.

512 Although the getting of food is the major activity of
433 Bushman life and is a major focus of Bushman thought, the
greater part of the waking life of the Bushmen is given over
to social, religious and trading activities that are largely
independent of the food quest.

Their emphasis on non-subsistence activities becomes
clear when daily records are kept of the activities of the
• [126] members of a camp. For example, a diary of activities was
kept for the Dobe camp during July, 1964. This record was
made during mid-winter, a season of comparative scarcity. It
[462] was found that the 23 adults of this camp spent less than
half of their days in subsistence activities, an average of
23% of the time for the women and 40% of the time for the
[574] men. The majority of their waking hours were spent visiting
[521] other camps, entertaining visitors, resting, talking, hut
building, and making tools, clothing, and ornaments.

Plant Resources

137 There are well over 200 species of plants and 220 species
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16: Lee E-5 (1963-1965) 1966 FX10 Bushmen FX10
!Kung

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of animals named and known by the Dobe area Bushmen. Of these 420 species, 350 species were collected and identified

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by the author. Two-thirds of the plant species and half of the animal species are utilized by the Bushmen. Of these, they classify 85 species of plants and 54 species of animals as edible. It is therefore evident that the Bushmen have a remarkably broad subsistence base. On closer examination, however, one finds that the Bushmen are highly selective in their food habits. In fact, only nine species of plants constituted about three-quarters of the total vegetable diet; and one species alone, the mongongo nut, accounted for at least half of the total. Furthermore, of the 54 animal species eaten, only 17 species were consistently hunted.

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A plant species may be regarded by the Bushmen as a major food for one or more of several reasons. Certain foods are prized because of their abundance or because of the long season during which they are available. Other foods are prized because of the ease with which they are collected. For this reason fruits are generally more popular than roots since the latter have to be dug out of the ground. Then there are foods which are especially good tasting and/or believed to be highly nutritious. The various plant foods are evaluated pragmatically and rationally and few species

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are restricted by magico-religious taboos. This is in sharp